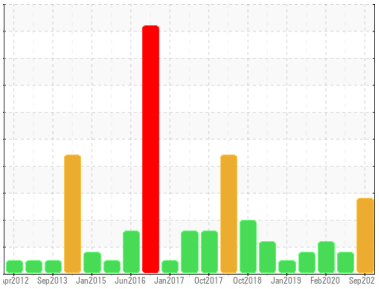
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
SPARTAN 300669 P46
Component
Front Diesel Engine
Fluid
SAFETY-KLEEN PERFORMANCE PLUS XHD-7 15W40 (40 LTR)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0078192**	PC0050567	WC0310370
Sample Date		Client Info		**11 Sep 2023**	04 Nov 2021	07 Feb 2020
Machine Age	kms	Client Info		**246107**	230859	218661
Oil Age	kms	Client Info		**0**	7000	6000
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	MARGINAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>200	**30**	13	56
Chromium	ppm	ASTM D5185(m)	>10	**1**	<1	2
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>30	**3**	2	4
Lead	ppm	ASTM D5185(m)	>30	**2**	<1	4
Copper	ppm	ASTM D5185(m)	>30	**2**	<1	2
Tin	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**2**	1	1
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**58**	56	57
Manganese	ppm	ASTM D5185(m)		**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)		**928**	950	894
Calcium	ppm	ASTM D5185(m)		**1005**	974	993
Phosphorus	ppm	ASTM D5185(m)		**989**	1026	836
Zinc	ppm	ASTM D5185(m)		**1115**	1152	1072
Sulfur	ppm	ASTM D5185(m)		**2511**	2525	2436
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

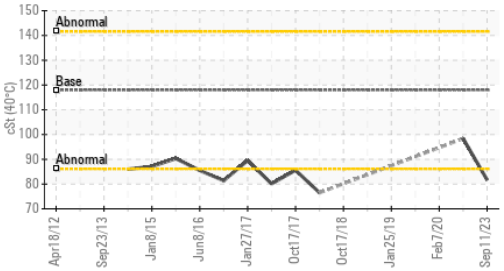
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>30	**3**	2	3
Sodium	ppm	ASTM D5185(m)		**2**	1	2
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	1
Fuel	%	ASTM D7593*	>3.0	**5.1**	2.4	3.9

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**2.2**	0.6	2.7
Nitration	Abs/cm	ASTM D7624*	>20	**10.4**	6.2	12.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.2**	20.3	29.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.9**	14.2	18.6

OIL ANALYSIS REPORT

Viscosity @ 40°C

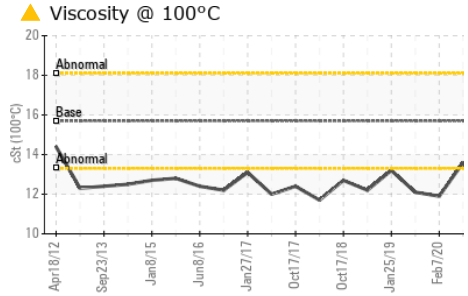


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

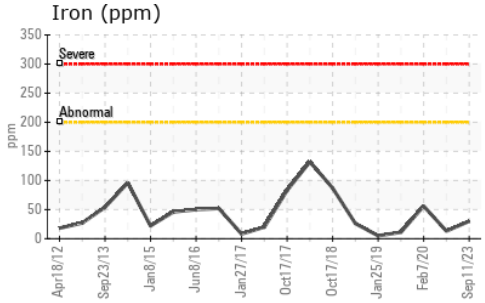
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118	▲ **81.7**	98.4	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	▲ **11.9**	13.6	▲ 11.9
Viscosity Index (VI)	Scale	ASTM D2270*	140	**139**	138	---

GRAPHS

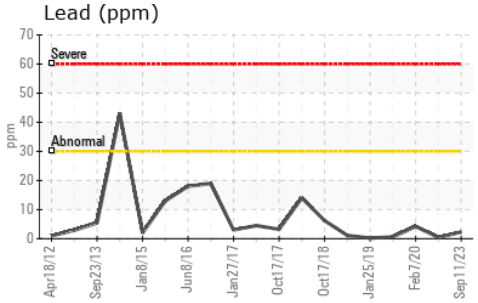
Viscosity @ 100°C



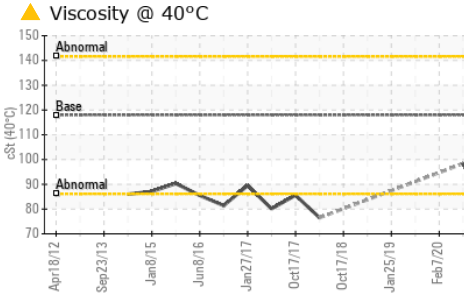
Iron (ppm)



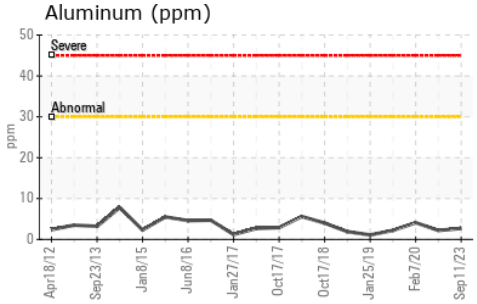
Lead (ppm)



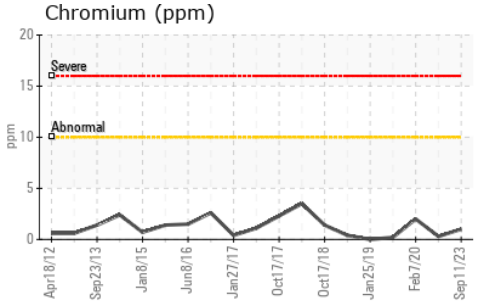
Viscosity @ 40°C



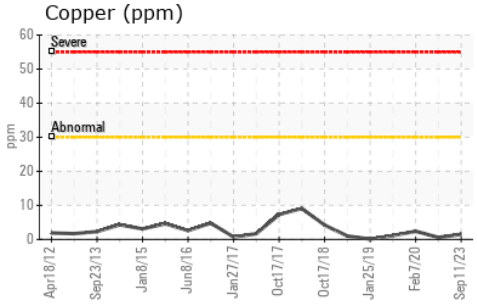
Aluminum (ppm)



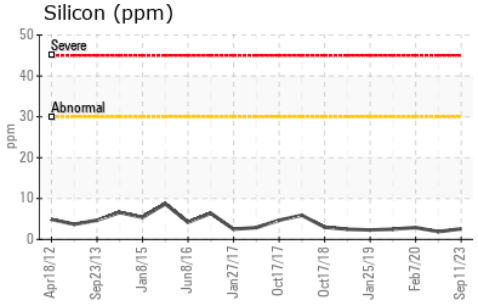
Chromium (ppm)



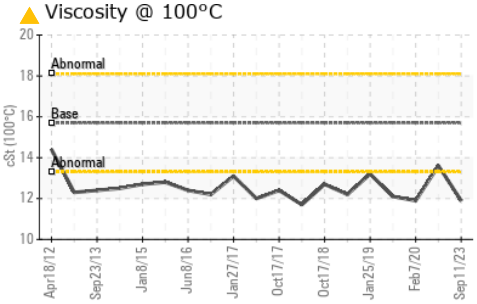
Copper (ppm)



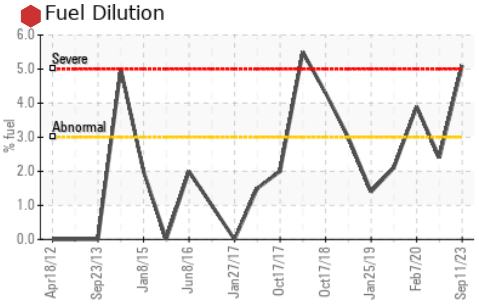
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: PC0078192	**Received**	: 21 Sep 2023
Lab Number	: 02584314	**Diagnosed**	: 22 Sep 2023
Unique Number	: 5645379	**Diagnostician**	: Wes Davis
Test Package	: MOB 1 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)		

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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